

ABSTRACT

The present invention is an article carrier assembly for mounting on an exterior surface of a motor vehicle. The article carrier includes a pair of elongated side rails constructed and arranged to be mounted on an exterior surface of the motor vehicle. The side rails extend generally parallel to one another in a spaced apart relation. An elongated cross rail assembly is constructed and arranged to be mounted transversely between and releaseably lockable along the side rails in a range of operating positions. The cross rail assembly has rail locking structures mounted on opposite ends thereof. A rotatable rod gangs the rail locking structures together for cooperative movement thereof between locked positions wherein the rail locking structures engage the side rails to lock the cross rail assembly in one of the operating positions and disengage positions permitting longitudinal travel of the cross rail assembly along the side rails. An actuator is operatively connected to the rotatable rod for effecting the cooperative movement. The cross rail assembly is constructed and arranged such that an operator standing on one side of the vehicle can manipulate the actuator and move the cross rail assembly between the operating positions.

ARTICLE CARRIER ASSEMBLY HAVING A CROSS RAIL ASSEMBLY WITH A TURNABLE LOCKING MECHANISM

Field of Invention

5 The present invention relates to article carrier assemblies used to transport cargo on the exterior of motor vehicles.

Background of Invention

10 Article carrier assemblies are well-known as a means for transporting cargo on the exterior of a motor vehicle. Conventionally, these article carrier assemblies include a pair of side rails with cross rails mounted transversely thereacross. The cargo is usually laid across or tied down to the cross rails. Oftentimes, the size of the cargo to be transported varies. Thus, it is desirable to be able to adjust the positions of one or more of the cross rails in order to more suitably accommodate articles of
15 cargo of varying sizes.

 Typically, the cross rails of article carrier assemblies known heretofore were adjusted by manually unlocking each end thereof from the side rails. This required the operator to first unlock the cross rail from one side of the vehicle, then unlock the cross rail from the other side of the vehicle, adjust the cross rail to a desired position,
20 and then re-lock the cross rail from each side of the vehicle.

 In order to reduce the need for an operator to unlock and then re-lock the cross rail from each side of the vehicle, article carrier assemblies having cross rails which can be manually unlocked, adjusted longitudinally to a desired position, and then re-locked while remaining on one side of the vehicle have been heretofore proposed.
25 Examples of such article carrier assemblies are disclosed in U.S. Patent No. 5,190,198 and PCT Application WO 94/10007. These article carrier assemblies rely on a complex arrangement of cables and pulleys in order to allow the cross rails thereof to be locked and unlocked from one side of the vehicle.

Thus, there exists a need for an article carrier assembly having a cross rail assembly whose position can be adjusted while remaining on one side of the vehicle, yet having a simplified and durable construction.

5 **Summary of Invention**

It is therefore an object of the present invention to provide an article carrier assembly which meets the needs expressed above. The present invention is an article carrier assembly for mounting on an exterior surface of a motor vehicle. The article carrier includes a pair of elongated side rails constructed and arranged to be mounted
 10 on an exterior surface of the motor vehicle. The side rails extend generally parallel to one another in a spaced apart relation. An elongated cross rail assembly is constructed and arranged to be mounted transversely between and releaseably lockable along the side rails in a range of operating positions. The cross rail assembly has rail locking structures mounted on opposite ends thereof. A rotatable rod gangs
 15 the rail locking structures together for cooperative movement thereof between locked positions wherein the rail locking structures engage the side rails to lock the cross rail assembly in one of the operating positions and disengage positions permitting longitudinal travel of the cross rail assembly along the side rails. An actuator is operatively connected to the rotatable rod for effecting the cooperative movement.
 20 The cross rail assembly is constructed and arranged such that an operator standing on one side of the vehicle can manipulate the actuator and move the cross rail assembly between the operating positions.

Brief Description of The Drawings

25 FIG. 1 is a perspective view of a roof portion of a motor vehicle having a article carrier assembly mounted thereon, provided in accordance with the principles of the present invention;

FIG. 2 is plan view of an adjustable cross rail assembly of FIG. 1, engaged with the side rail structures;

is also to be understood that engaging pins to be received in longitudinally spaced apertures formed on the side rail structures may also be used in place of the side rail locking structures described hereinabove.

5 It can be seen that the article carrier assembly 10 of the present invention provides an effective means of moving and then locking a cross rail assembly in any one of a range of operating positions along the side rails thereof.

10 It will be thus seen that the objects of the present invention have been fully and effectively accomplished. It will be realized, however, that the foregoing preferred specific embodiment has been shown for the purpose of illustrating the functional and structural principles of the present invention and is subject to change without departure from such principles. Therefore, the present invention includes all modifications encompassed within the spirit and scope of the following claims.

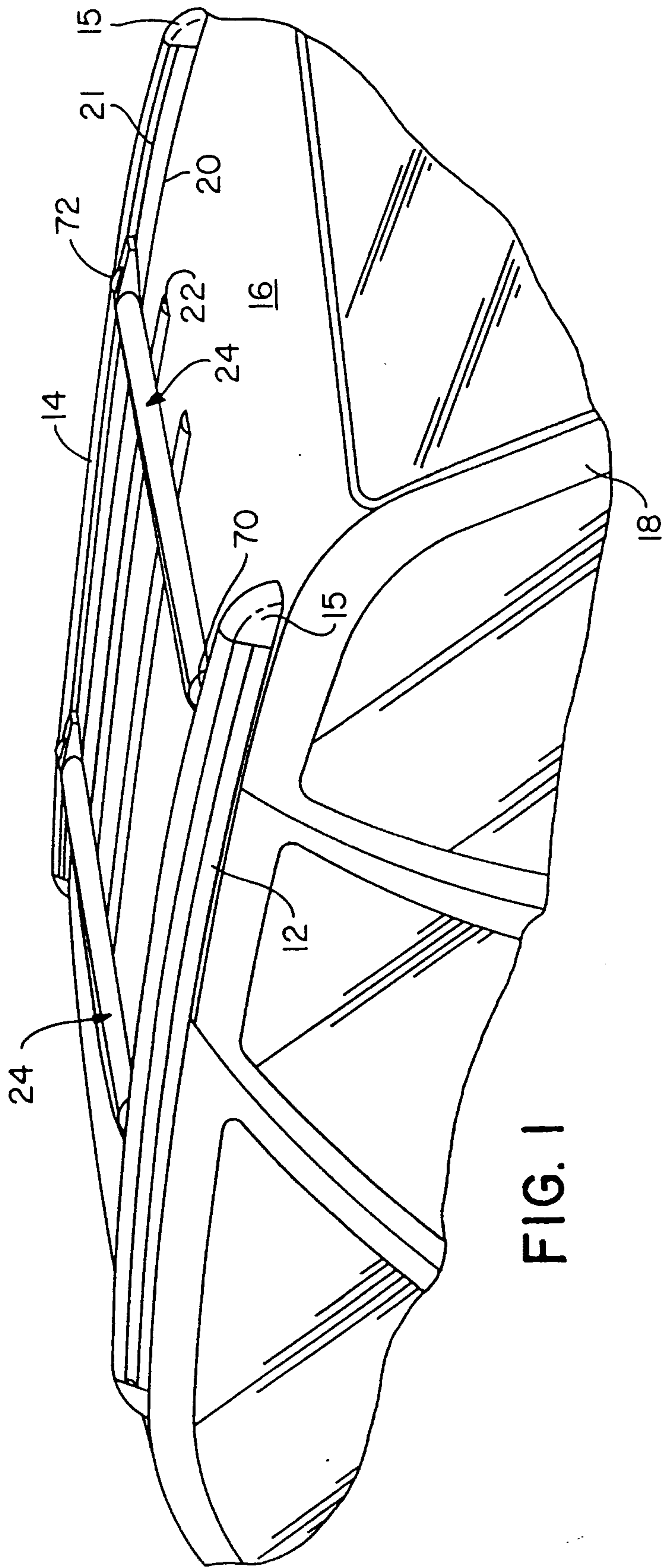


FIG. 1

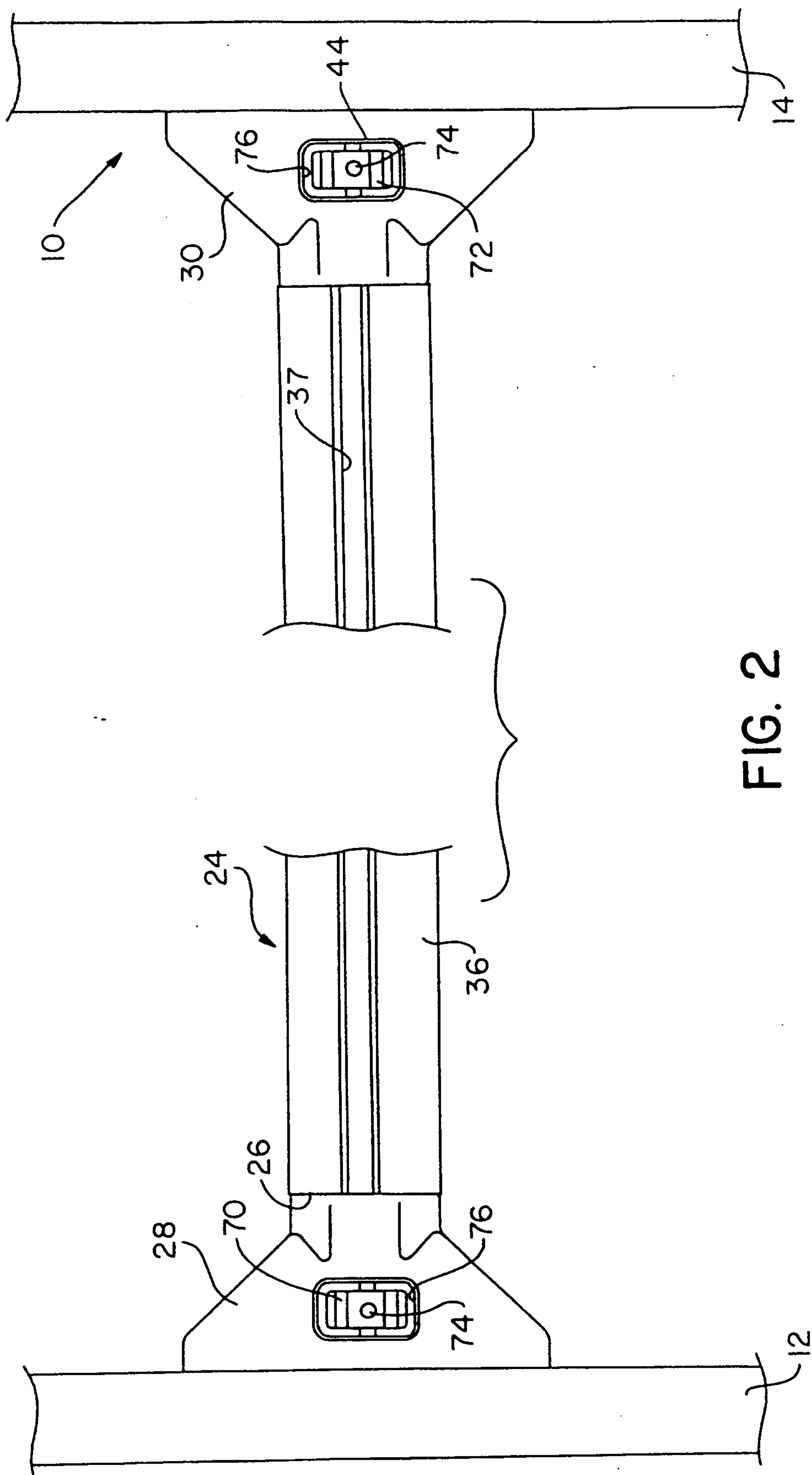


FIG. 2

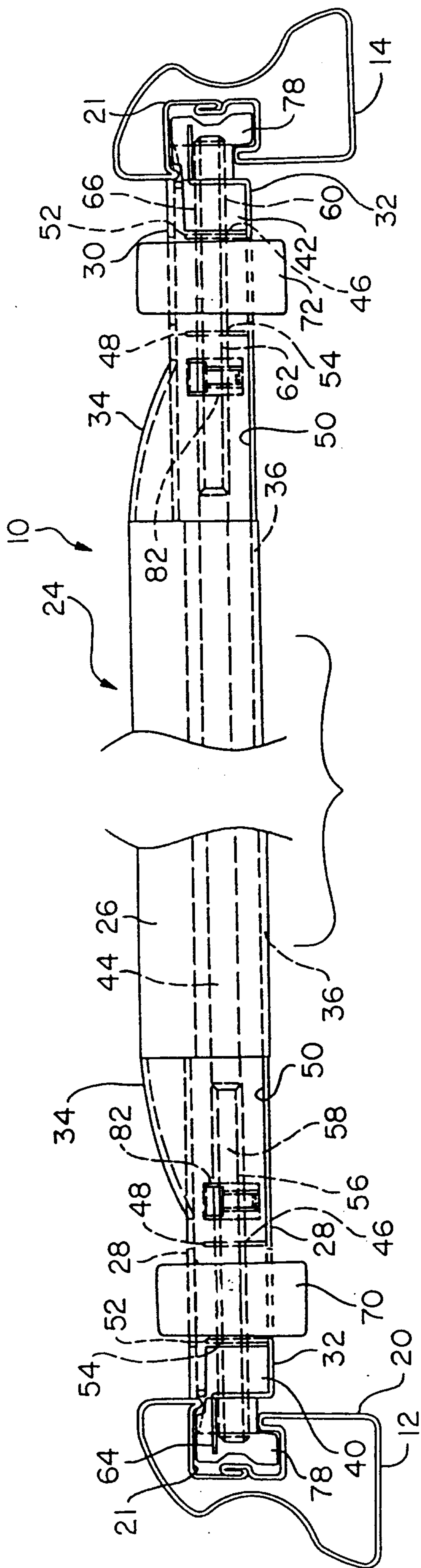


FIG. 3

